DOCUMENT RESUME

ED 230 419 SE 041 914

AUTHOR Gerlovich, Jack
TITLE Methods for Addressing Creation/Evolution Controversies in Iowa Schools.
PUB DATE 82
NOTE 18p.; Supersedes ED 199 074.
PUB TYPE Viewpoints (120)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Creationism; Educational Policy; *Elementary School Science; Elementary Secondary Education; *Evolution; *Position Papers; Public Schools; *Religious Factors; Science Curriculum; Science Education; Science Instruction; *Secondary School Science
IDENTIFIERS Iowa

ABSTRACT

Three papers are provided to assist local school districts and legislators in developing their positions when addressing creation/evolution controversies in Iowa schools. "Creation, Evolution and Public Education: The Position of the Iowa Department of Public Instruction (DPI)" presents the consensus of opinions of national and Iowa theologians, church leaders, scientists, science educators, teachers, and philosophers surveyed and/or interviewed in 1978-79. The paper delineates the controversy, defines science, defines evolution, and then delineates the position of the DPI. "Position Statement on the Creation/Evolution Controversy from the Iowa Council of Science Supervisors" discusses the responsibilities of science educators as interpreters of science, not generators of new scientific knowledge, indicating that they must lean toward the scientific community to delineate science content and settle conflict between competing paradigms (creation/evolution). "Statement of the Position of the Iowa Academy of Science on the Status of Creationism as a Scientific Explanation of Natural Phenomena" communicates the strong opposition of this body to introducing "scientific creationism" into science classrooms. An introduction highlighting and summarizing the three papers, 157-item bibliography, and list of four instructional materials on evolution are included. (JN)

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4200-D87540-1/82

METHODS FOR ADDRESSING CREATION/EVOLUTION CONTROVERSIES IN IOWA SCHOOLS

Jack Gerlovich, Science Consultant
Iowa Department of Public Instruction

U.S. DEPARTMENT OF EDUCATION
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In Iowa and many other states, "creationism" has recently been advanced as an alternative to the theory of evolution. Attempts have been made to legislatively mandate "equal time" for creationist concepts in science classrooms, materials, and textbooks.

As creationist efforts have intensified at the local district and state levels, administrators, school board members, science teachers, and legislator requests for practical assistance in addressing this issue from a sound education and scientific basis have also increased.

Interviews and surveys conducted by the Iowa Department of Public Instruction indicate that most Iowa religious leaders, science educators, scientists, and philosophers contacted support the present patterns of science teaching in Iowa's schools. In addition, due to the nature of scientific and technological concepts, these authorities feel that the specifics of each discipline should be confined to their respective houses.

In order to maintain the local autonomy premise to education in Iowa, three publications have recently been developed to assist local districts and legislators in developing their positions:

- Creation, Evolution and Public Education: The Position of the Iowa Department of Public Instruction (DPI). The paper represents the concensus of opinions of National and Iowa theologians, church leaders, scientists, science educators, teachers, and philosophers surveyed and/or interviewed in 1978-79. The paper delineates the controversy, defines Science, defines Evolution and then delineates the position of the DPI. These authorities feel that although individuals should have the right to believe as they wish, the specifics of theological and scientific concepts should be confined to their respective houses. Again, to maintain local autonomy, the DPI encourages local districts to review the paper's content carefully and then make a decision consistent with local needs and perceptions.

- Position statement on the Creation/Evolution Controversy from the Iowa Council of Science Supervisors (CS^2). The paper discusses the responsibilities of science educators as interpreters of science, not generators of new scientific knowledge. As such science teachers must lean toward the scientific community to delineate science content and settle conflicts between competing paradigms (creation/evolution). If material is recognized as being non, or pseudoscience, by the scientific community, teachers should be discouraged by science supervisors from utilizing them, or encouraged to recognize the materials as being examples of pseudoscience.

- Position of the Iowa Academy of Science on the Status of Creationism as a Scientific Explanation of Natural Phenomena.

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The paper communicates the strong opposition of the Iowa Academy of Science to introducing "scientific creationsim" into science classrooms. The IAS recognizes creationism as religious doctrine posed as science and contrary to the nature of science when supernatural explanations of natural events or origins are proposed.

Since science teaching takes place at the local classroom level, it is here that teachers need the greatest assistance in resolving such multifaceted questions.

The Iowa Academy of Science has also identified a cadre of scientists who will, upon request, assist science teachers, administrators, school boards, and legislators in addressing this and other science isses. For additional information contact Robert Hanson, Executive Director, Iowa Academy of Science, University of Northern Iowa, Cedar Falls, Iowa 50613.

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State of Iowa
DEPARTMENT OF PUBLIC INSTRUCTION
Curriculum Division
Grimes State Office Building
Des Moines, Iowa 50319

CREATION, EVOLUTION AND PUBLIC EDUCATION

THE POSITION OF THE IOWA DEPARTMENT OF PUBLIC INSTRUCTION

The Controversy

In Iowa and other states, "creationism" has recently been advanced as an alternative to the theory of evolution. Attempts have been made to legislatively mandate "equal time" for creationist concepts in science classrooms, materials and textbooks.

Interviews and surveys conducted by the Iowa Department of Public Instruction show that most Iowa religious leaders, science educators, scientists and philosophers contacted support the present patterns of teaching science in Iowa's schools. In addition, due to the nature of scientific and theological concepts, these authorities feel that the specifics of each discipline should be confined to their respective houses.

The National Academy of Science has stated that religion and science are "separate and mutually exclusive realms of human thought whose presentation in the same context leads to misunderstanding of both scientific theories and religious beliefs."[1]

Creationism

In America, religion is usually defined as the expression of man's belief in, and reverence for, a metaphysical power governing all activities of the universe. Where there is not belief in metaphysical power, religion is a concern for that which is ultimate. Generally creationism is a religious concept. It proposes that all living things were created by a Creator. According to the creation model, "all living things originated from basic kinds of life, each of which was separately created."[2]

There are many versions of creation. Generally, creationists advocate that all permanent, basic life forms originated thousands of years ago through directive acts of a Creator - independent of the natural universe. Plants and animals were created separately with their full genetic potentiality

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[1]Resolutions adopted by the National Academy of Science and the Commission of Science Education of the American Academy for the Advancement of Science (Washington, D.C.: October 17, 1972)

[2]Bliss, R. B., Origins: Two Models; Evolution, Creation (San Diego: Creation Life Publishers, 1976) p. 31

provided by the Creator. Any variation, or speciation, which has occurred since creation has been within the original prescribed boundaries. Since each species contains its full potentiality, nature is viewed as static, reliable and predictable. Based on alleged gaps in the geologic record, creationists reject the theory of the descent of plants and animals from a single line of ancestors arising through random mutation and successively evolving over billions of years. It is further alleged that, through analysis of geologic strata, the earth has experienced at least one great flood or other natural global disasters accounting for the mass extinction of many biological organisms. Following such extinctions there followed sudden increases in the number, variety and complexity of organisms.

Having all Biblical accounts of creationism placed in comparative theology courses with other religious accounts of origins will not placate ardent creationists. They require that creationism be presented as a viable scientific alternative to evolution.[3] More zealous creationists argue that "it is only in the Bible that we can possibly obtain any information about the methods of creation, the order of creation, the duration of creation, or any other details of creation."[4]

Science

Science is an attempt to help explain the world of which we are a part. It is both an investigatory process and a body of knowledge readily subjected to investigation and verification. By a generally accepted definition, science is not an indoctrination process, but rather an objective method for problem solving. Science is an important part of the foundation upon which rest our technology, our agriculture, our economy, our intellectual life, our national defense, and our ventures into space.

The formulation of theories is a basic part of scientific method. Theories are generalizations, based on substantial evidence, which explain many diverse phenomena. A theory is always tentative. It is subject to test through the uncovering of new data, through new experiments, through repetition and refinements of old experiments, or through new interpretations. Should a significant body of contrary evidence appear, the theory is either revised or it is replaced by a new and better theory. The strength of a scientific theory lies in the fact that it is the most logical explanation of known facts, principles, and concepts dealing with an idea which does not currently have a conclusive test.

Evolution

The theory of evolution meets the criteria of a scientific theory. It can explain much of the past and help predict many future scientific phenomena. Basically, the theory states that modern biologic organisms descended with

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[3]Morris, Henry M., The Remarkable Birth of Planet Earth (San Diego: Creation Life Publishers, 1972)

[4]National Association of Biology Teachers - A Compendium of Information on the Theory of Evolution and the Evolution-Creationism Controversy (June 1977)

modification, from pre-existing forms which in turn had ancestors. Those organisms best adapted, through anatomical and physiological modification to their environment, left more offspring than did non-adapted organisms. The increased diversity of organisms enhanced their ability to survive in various environments and enabled them to leave more progeny.

The theory of evolution is designed to answer the "how" questions of science and biological development; it cannot deal effectively with the "who" or "why" of man's origin and development. It is, however, an effective means of integrating and clarifying many otherwise isolated scientific facts, principles and concepts.

There have been alternatives proposed to the theory of evolution (i.e., creationism, exo-biology, spontaneous generation); however, none are supported by the amount of scientific evidence that presently supports the theory of evolution.

It is evident that the process of evolution occurs. Successful species of living organisms change with time when exposed to environmental pressures. Such changes in species have been documented in the past, and it can be confidently predicted that they will continue to change in the future. Evolution helps explain many other scientific phenomena: variations in disease, drug resistance in microbes, anatomical anomalies which appear in surgery, and successful methods for breeding better crops and farm animals. Modern biological science and its applications on the farm, in medicine, and elsewhere are not completely understandable without many of the basic concepts of evolution.

There are many things that evolution is not. It is not dogma. Although there is intense dispute among scientists concerning the details of evolution, most scientists accepts its validity on the ground of its strong supporting evidence.

Department of Public Instruction Decision

Teaching religious doctrine is not the science teacher's responsibility. Teachers should recognize the personal validity of alternative beliefs, but should then direct student inquiries to the appropriate institution for counseling and/or further explanation. Giving equal emphasis in science classes to non-scientific theories that are presented as alternatives to evolution would be in direct opposition to understanding the nature and purpose of science.

Each group is fully entitled to its point of view with respect to the Bible and evolution; but the American doctrine of religious freedom and the Establishment Clause in the First Amendment to the U. S. Constitution forbid either group--or any other religious group--from pressing its point of view on the public schools. An Indiana court decision declared: "The prospect of biology teachers and students alike forced to answer and respond to continued demand for 'correct' Fundamentalist Christian doctrines has no place in public schools."[5]

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[5]Hendren vs. Campbell, Supreme Court No. 5 Marion County, Indiana (1977) p. 20

The science curriculum should emphasize the theory of evolution as a well-supported scientific theory--not a fact--that is taught as such by certificated science teachers. Students should be advised that it is their responsibility, as informed citizens, to have creationism explained to them by theological experts. They must then decide for themselves the merits of each discipline and its relevance to their lives.

The Iowa Department of Public Instruction feels that public schools cannot be surrogate family, church and all other necessary social institutions for students, and for them to attempt to do so would be a great disservice to citizens and appropriate institutions.

Position Statement on the
Creation/Evolution Controversy from
The Iowa Council of Science Supervisors (CS^2)

Because of the insistence that special creation be taught in Iowa science classes as an alternative concept to evolution, we, the Iowa Council of Science Supervisors, as representatives of the science educators in Iowa, make the following statement:

Science educators are responsible for interpreting the spirit and substance of science to their students. Teachers are bound to promote a scientific rationale based upon carefully defined and objective judgments of scientific endeavors. When conflicts arise between competing paradigms in science, they must be resolved by the scientific community rather than by the educators of science.

Based upon court decisions in Indiana and Tennessee, and in the creationists' own statements of beliefs, the Creation Research Society is premised upon the full belief in the Biblical record of special creation.

> "The Bible is the Written Word of God, and because it is inspired throughout, all its assertions are historically and scientifically true in all original autographs. To the student of nature this means that the account of origins in Genesis is a factual presentation of simple historical truth."*

Science is tentative and denies an ultimate or perfect truth as claimed by scientific creationsim. We suggest that creationists submit their creation theories and models to recognized science organizations such as the American Association for the Advancement of Science (AAAS) or their affiliated scientific societies. The claims of these paradigms should be substantiated with validated objective evidence. The scientific organizations would assume responsibility for analyzing the materials, making their findings available for national review through AAAS Scientific journals.

Until "scientific creation" receives substantial support from such organizations as AAAS, American Anthropolical Association, State Acadamies of Science, National Academy of Science, and National Paleontological and Geological Associations, it is recommended that this organization (CS^2) and the science teachers of Iowa reject further consideration of scientific creationism as an alternative approach to established science teaching practices.

* Membership application forms for the Creation Research Society, Wilbert II. Rusch, Membership Secretary, 2712 Cranbrook Raod, Ann Arbor, Michigan 48104.

The Iowa Academy of Science

University of Northern Iowa, Cedar Falls, Iowa 50613 Phone 319-273-2021

STATEMENT OF THE POSITION OF THE IOWA ACADEMY OF SCIENCE ON THE STATUS OF CREATIONISM AS A SCIENTIFIC EXPLANATION OF NATURAL PHENOMENA
31 January 1981

Current attempts to introduce "scientific creationism" into the science classroom are strongly opposed by The Iowa Academy of Science on the grounds that creationism when called "scientific" is a religious doctrine posed as science. It is contrary to the nature of science to propose supernatural explanations of natural events or their origins. With its appeal to the supernatural, creationism is outside the realm of science.

Creationist organizations that are advocating the teaching of "scientific creationism" in science classrooms include members purported to be scientists who have examined the evidence and have found creationism to be a superior alternative to evolution. They claim to know of evidence that supports the idea of a young earth and that shows evolution to be impossible. Much of this "evidence" is inaccurate, out of date, and not accepted by recognized paleontologists and biologists. The total membership of these "scientific" creationist groups constitutes only a fraction of one percent of the scientific personnel in this country. Most of them are not trained in biology or geology, the areas in which professional judgments are made in the field of evolutionary theory. They often misrepresent the positions of respected scientists and quote them out of context to support their own views before audiences and government bodies. They are driven by the notion that all explanations of natural events must conform to their preconceived creationist views. These tactics are used to give the uninformed public the false impression that science itself is confused. Then a supernatural explanation is proposed to bring order out of apparent chaos.

The Iowa Academy of Science urges legislators, school administrators, and the general public not to be misled by the tactics of these so-called "scientific creationists." The Academy respects the right of persons to hold diverse religious beliefs, including those which reject evolution, but only as matters of theology or faith, not as secular science. Creationism is not science and the Academy deplores and opposes any attempt to disguise it as science. Most recognized scientists find no conflict between religious faith and acceptance of evolution. They do not view evolution as being anti-religious. They have no vested interest in supporting evolution as do the "scientific creationists" in supporting creationism, but merely consider evolution as being most consistent with the best evidence.

The Iowa Academy of Science feels strongly that the distinction between science and religion must be maintained. A state with one of the highest literacy rates and with the highest scientific literacy scores in the nation, and one which prides itself on the individuality of its citizens, should discriminate in its public education system between what is science and what is not science.

(Approved by a majority of all voting members of the Iowa Academy of Science in February, 1981)

State of Iowa
DEPARTMENT OF PUBLIC INSTRUCTION
Instruction and Curriculum Division
Grimes State Office Building
Des Moines, Iowa 50319

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